AF

TRANSMITTAL LETTER
(General - Patent Pending)

Docket No. 200-0646

In Re Application Of: **Juliet C. Kraal et al.**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
09/630,918	August 2, 2000	T. Stevens	33481	2123	7908

Title: **SYSTEM AND METHOD OF SUBJECTIVE EVALUATION OF A VEHICLE DESIGN WITHIN A VIRTUAL ENVIRONMENT USING A VIRTUAL REALITY**

COMMISSIONER FOR PATENTS:

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Reply Brief (in triplicate), and return postcard.

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Dated: **January 3, 2007**

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Art Unit:	2123
Examiner:	T. Stevens
Applicant(s):	Juliet C. Kraal et al.
Serial No.:	09/630,918
Filing Date:	August 2, 2000
For:	SYSTEM AND METHOD OF SUBJECTIVE EVALUATION OF A VEHICLE DESIGN WITHIN A VIRTUAL ENVIRONMENT USING A VIRTUAL REALITY

REPLY BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

This Reply Brief is directed to new points of argument raised in the Examiner's Answer dated November 2, 2006 for the above-identified application. On page 13 of the Examiner's Answer, the Examiner argues that there is no distinction between a "scale ratio" and "scaling down" of a 3D human image for, in this instance, to gage various human body shapes for a specified cliental (target population), to which the Nayar reference teaches. In addition, on page 14, the Examiner argues that additional motivation to combine Nayar and Purschke is that Purschke states "furthermore the user in an VE is able to choose every point he/she desires". Further, on page 15, the Examiner argues that Purschke and Nayar teaches the steps of the scale ratio and range of the target population for an evaluator.

CERTIFICATE OF MAILING: (37 C.F.R. 1.8) I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service with sufficient postage as First Class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on January 3, 2007, by _____.
Daniel H. Bliss

Applicants respectfully disagree with the Examiner as to the above arguments. As to the first argument, the Examiner argues that there is no distinction between a "scale ratio" and "scaling down" of a 3D human image to gage various human body shapes for a specified cliental (target population) and that the Nayar reference teaches this limitation. Nayar, page 428, section 1.4, line 8, describes that existing geometry can be scaled and stored on a hard disk to build libraries of tools/parts that are commonly used. However, Nayar lacks a scaleable physical property representative of a vehicle design, wherein the physical property is adjusted according to a scale ratio for an evaluator of the vehicle design. In Nayar, while existing geometry can be scaled and stored to build libraries, it does not mention that a physical property of a vehicle design is adjusted according to a scale ratio for an evaluator of the vehicle design.

Contrary to the Examiner, Nayer does not state that the scaling ratio encompasses the entire process of modifying human body characteristics. Nayar, page 428, section 3, states that the system only remembers postures and that the interface provides utilities to move the forward and backward through postures. Nayar lacks a scale ratio that is a ratio between a predetermined dimension of an evaluator and a predetermined dimension of a member of a target population. In Nayar, while worker motion sequences can be used to test a desired range of population, it does not mention that a scale ratio is a ratio between a predetermined dimension of an evaluator and a predetermined dimension of a member of a target population. Therefore, it is respectfully submitted that the Examiner has misinterpreted the Nayar reference and the rejection under 35 U.S.C. § 103 is clearly wrong.

As to the second argument, the Examiner argues that additional motivation to combine Nayar and Purschke is that Purschke states "furthermore the user in an VE is able to choose every point he/she desires". There is no factual basis in the references relied upon which supports the Examiner's argument.

A rejection based on 35 U.S.C. § 103 must rest on a factual basis, with the facts being interpreted without hindsight reconstruction of the invention from the prior art. In making this evaluation, the Examiner has the initial duty of supplying the factual basis for the rejection he advances. He may not, because he doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis. See In re Warner, 379 F.2d 1011, 154 U.S.P.Q. 173 (C.C.P.A. 1967).

Purschke et al. merely discloses the use of virtual reality techniques during the car development process in which a CyberGlove is used for navigating in the virtual environment and for gesture recognition. Purschke et al., page 9, section 3.2, lines 1-2 states that "Another feature is sight analysis. Since the user in a VE is able to choose every point of view he desires, it was a logical consequence to supply realistic positions that conform with known percentiles." In Purschke et al., there is no mention of a physical property being adjusted according to a scale ratio for an evaluator or a scale ratio is a ratio between a predetermined dimension of an evaluator and a predetermined dimension of a member of a target population. Further, Purschke et al. does not teach a scaleable physical property representative of a vehicle design, wherein the physical property is adjusted according to a scale ratio for an evaluator of the vehicle design and the scale ratio is a ratio between a predetermined dimension of the evaluator and a predetermined dimension of a member of a target population.

The Examiner, based on speculation, states that it would have been obvious to one of ordinary skill in the art to use Purschke et al. to modify Nayar to have a scalable virtual human to adjust specific car interior features towards a specific market demographic. The Examiner's stated conclusion of obviousness is based on speculation and hindsight reconstruction of the claimed invention. One of ordinary skill in the art would not look to Purschke et al. or Nayer for guidance because neither reference teaches a scaleable physical property representative of a

vehicle design, wherein the physical property is adjusted according to a scale ratio for an evaluator of the vehicle design and the scale ratio is a ratio between a predetermined dimension of the evaluator and a predetermined dimension of a member of a target population. The CAFC has held that "[t]he mere fact that prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification". In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). The Examiner has failed to show how the prior art suggested desirability of modification to achieve Applicants' invention.

Even if these references could be combined, neither teaches a scaleable physical property representative of a vehicle design, wherein the physical property is adjusted according to a scale ratio for an evaluator of the vehicle design and the scale ratio is a ratio between a predetermined dimension of the evaluator and a predetermined dimension of a member of a target population. Applicants are not attacking the references individually, but are clearly pointing out that each reference is deficient and, if combined (although Applicants maintain that they are not combinable), the combination is deficient. The claimed computer system for subjective evaluation of a vehicle design within a virtual environment using virtual reality includes a scaleable physical property representative of the vehicle design, wherein the physical property is adjusted according to a scale ratio for an evaluator of the vehicle design and the scale ratio is a ratio between a predetermined dimension of the evaluator and a predetermined dimension of a member of a target population. Advantageously, the system can be utilized to evaluate a vehicle design based on a consumer's perception of ergonomic factors such as visibility, reach and clearance, early in the design process. There is no suggestion or motivation to modify or combine the references to obtain this combination and the claimed combination is not obvious to one skilled in the art. Therefore, it is respectfully submitted that the rejection under 35 U.S.C. § 103 is clearly wrong.

As to the third argument, the Examiner argues that Purschke and Nayar teaches the steps of the scale ratio and range of the target population for an evaluator. The Examiner bases this argument on the Purschke abstract describing the use of virtual reality techniques during the car development process at Volkswagen and on the Nayer reference that existing geometry can be scaled. Contrary to the Examiner's opinion, Purschke et al. merely discloses a CyberGlove used for navigating in a virtual environment. Nayar merely discloses a fully-functional 3D CAD system that allows existing geometry to be scaled and stored on a hard disk to build libraries of tools/parts that are commonly used in a working environment. However, there is absolutely no teaching of a level of skill in the vehicle design art that a system for subjective evaluation of a vehicle design within a virtual environment using virtual reality includes a scaleable physical property representative of the vehicle design, wherein the physical property is adjusted according to a scale ratio for an evaluator of the vehicle design and the scale ratio is a ratio between a predetermined dimension of the evaluator and a predetermined dimension of a member of a target population. Therefore, it is respectfully submitted that the Examiner has misinterpreted the Purschke et al. and Nayer references and the rejection under 35 U.S.C. § 103 is clearly wrong.

Accordingly, it is respectfully requested that the rejection of the pending claims be reversed and that the claims pending in the present application be allowed.

Respectfully submitted,

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